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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/532,740	03/22/2000	Sukekazu Aratani	503.38382X00	8245

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ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER	
ABDULSELAM, ABBAS I	

ART UNIT	PAPER NUMBER
2629	

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/532,740	ARATANI ET AL.	
	Examiner	Art Unit	
	Abbas I. Abdulselam	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6,7 and 10* is/are allowed.

6)☒ Claim(s) *1-5,8 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1 This office action is in response to a communication filed on 11/04/04. Claims1-10 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims1-5 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. in view of Michiya (JP 05-165026).

Regarding claim 1, Hirai et al. (hereinafter "Hirai") teaches a liquid crystal display apparatus (Fig. 2, col. 25, lines 11-13) comprising a liquid crystal display unit (liquid crystal display element Fig. 1 (1)) including a pair of substrates (Fig. 1 (2, 5)) at least one of which is transparent (transparent scattering type, col. 7, lines 39-43) a liquid crystal layer sandwiched by said pair of substrates (Fig. 1 (2, 5, 7), a liquid crystal and solidified matrix composite material, 7), a plurality of electrodes for applying an electric field to at least one of said pair of substrates (the two substrates with electrodes, col. 7, lines 39-43, application of electric field, col. 9, lines 47-50 and col. 10, lines 44-54) and a plurality of active elements connected to said plurality of

electrodes (a single or a plurality of active elements are connected to said plurality of electrodes, col. 6, lines 66-67); a lighting device including a plurality of light sources (a plurality of colored light sources, col. 4, lines 5-9).

Hirai does not teach a control unit for controlling ON and OFF states of a light source for each of the plural regions into which said lighting device is divided in synchronization with horizontal synchronization signals and vertical synchronization signals.

Michiya on the other hand teaches the use of light sources (4A, 4B, 4C), which are put ON and OFF under control in a predetermined sequence such that the light sources (4A, 4B 4C) operate based on a horizontal and vertical synchronization signals from a synchronizing separator circuit (8) (see the abstract, 12th paragraph under "Detailed Description" and Drawing 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hirai's display apparatus shown in Fig. 2 to adapt Michiya's light sources (4A, 4B 4C) along with a synchronizing separator circuit (8) as configured in Drawing 3 because the use of light sources (4A, 4B 4C) along with a synchronizing separator circuit (8) helps function a liquid crystal display device with out a color filter as taught by Michiya (see the abstract).

Regarding claim 2, Hirai teaches a liquid crystal display apparatus ((Fig. 2, col. 25, lines 11-13) comprising a liquid crystal display unit for displaying image signals; (liquid crystal display element Fig. 1 (1) and col. 7, lines 17-33) a drive unit for driving said liquid crystal display unit; (the display element can be driven with use of a conventional TN active element and a conventional driving circuit, col. 9, lines 57-60) a lighting device including a light-

adjustment unit for adjusting a quantity of light from a light source, which is transmitted to each of plural regions into which the lighting device is divided (diffusion light reducing device, col. 28, lines 5-25, Fig. 2 shows an example of the device for reducing diffusion light that include a light source 11, col. 28, lines 21-22).

Hirai does not teach a control unit for controlling each light adjustment unit in synchronization with horizontal synchronization signals and vertical synchronization signals.

Michiya on the other hand teaches the use of light sources (4A, 4B, 4C), which are put ON and OFF under control in a predetermined sequence such that the light sources (4A, 4B 4C) operate based on a horizontal and vertical synchronization signals from a synchronizing separator circuit (8) (see the abstract, 12th paragraph under "Detailed Description" and Drawing 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hirai's display apparatus shown in Fig. 2 to adapt Michiya's light sources (4A, 4B 4C) along with a synchronizing separator circuit (8) as configured in Drawing 3 because the use of light sources (4A, 4B 4C) along with a synchronizing separator circuit (8) helps function a liquid crystal display device with out a color filter as taught by Michiya (see the abstract).

Regarding claim 3, Hirai teaches said light-adjustment unit transmits light when no voltage is applied to said light adjustment unit (the equation (5B) is provided to make the relationships between an applied voltage and a light scattering property and the voltage-transmittance characteristics is defined, It would have been obvious to manipulate the equation).

Regarding claim 4, Michiya teaches said light source is a surface emission type element (illumination of white light from light sources 4A, 4B, 4C, see 8th paragraph, under Detailed Description).

Regarding claim 5, Hirai teaches each region is said lighting device is partitioned with partition plates (diffusion light reducing device, col. 28, lines 5-25, Fig. 2 shows an example of the device for reducing diffusion light that include a light source 11, col. 28, lines 21-22, it is a matter of design choice to make a diffusion light reducing device in a desired configuration).

Regarding claims 8-9, Hirai teaches said display response of said liquid crystal display unit is the scanning of the entire liquid crystal display unit (active matrix liquid crystal display element, col. 5, lines 11-12. It would have been obvious for such a display system to have scanning lines and video signal lines provided in a matrix manner).

Allowable Subject Matter

4. Claims 6-7 and 10 are allowed.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following arts are cited for further reference.

Kazufumi (JP 10-039842) teaches a liquid crystal driver 122 successively selects common electrodes COM in a operation mode, makes only the prescribed common electrode

COM 1 a standby state, and applies a driving signal to the segment electrodes in accordance with lighting or putting off of pixels, hence PICT symbol display and dot display are performed by dynamic driving in an operation mode, and only PICT symbol is displayed whole by static driving in a standby mode.

Hiroruko (JP 08-050276) teaches a test display in terms of dynamic and static driving executions.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abbas I. Abdulselam whose telephone number is 571-272-7685. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on Monday through Friday. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abbas Abdulselam

Examiner

Art Unit 2629

June 26, 2006

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600